

AMENDMENTS TO CLAIMS

Amend the claims as follows:

1. (Currently Amended) A data processing unit for registering a first image and a second image of an object, the data processing unit being set up to:
 - segment the images automatically into various object constituents;
 - register only those image areas ~~of selected~~ associated with preselected object constituents which are relevant to a predetermined task.

2. (Previously Presented) A data processing unit for registering a first image and a second image of an object, in particular a data processing unit as claimed in claim 1, which is set up to:
 - segment the images automatically into various object constituents;
 - register the image areas of various object constituents using individually assigned registration methods.

3. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmented object constituents are automatically classified.

4. (Previously Presented) A data processing unit as claimed in claim 1, wherein a linear registration is performed on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.

5. (Previously Presented) A data processing unit as claimed in claim 1, wherein the first image and/or the second image are/is (a) two- or three-dimensional computer tomogram(s), in particular an X-ray photograph or a magnetic resonance image.

6. (Previously Presented) A data processing unit as claimed in claim 1, wherein the object is the chest of a patient, the lungs being the object constituent relevant to a tumor diagnosis.

7. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmentation is performed using a watershed transformation.

8. (Previously Presented) An examination apparatus, comprising:
- an imaging device for producing images of an object;
 - a data processing unit as claimed in claim 1, coupled to the imaging device.
9. (Currently Amended) A method for registering a first image and a second image of an object, comprising the following steps:
- automatic segmentation of the images into various object constituents;
 - registration of the image areas ~~of selected~~ associated with preselected object constituents relevant to a predetermined task.
10. (Previously Presented) A method for registering a first image and a second image of an object, comprising the following steps:
- automatic segmentation of the images into various object constituents;
 - registration of the image areas of various object constituents using individually assigned registration methods.